ABSTRACT OF THE DISCLOSURE 09/407542

A planar lightwave circuit (PLC) is formed to include switching elements in which optical coupling among waveguides is determined by positions of displaceable members, such as micromirrors. Each switching element includes at least two light-transmitting waveguides extending along a waveguide substrate to a trench. The optical coupling between the waveguides of a switching element is dependent upon the optical characteristics exhibited at the trench. The displaceable device of a switching element has a transmitting position and a reflecting position. The displaceable device may be manipulated using microelectromechanical system (MEMS) techniques or techniques similar to those used in a dot matrix printer engine. The trench at the crosspoint of waveguides may include a liquid having a refractive index that closely matches the refractive index of the core material of the waveguides. If no index-matching liquid is included at the trench, the walls of the trench are preferably coated with an anti-reflection coating.